Atypical Huntington's Disease with Ataxia and Parkinsonism

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Introduction

Huntington's disease (HD) is a neurodegenerative disorder characterized by choreic movements, behavioral disturbances, and dementia. HD may manifest with atypical syndromes mainly involving younger patients, which may show prominent motor signs likely suggesting other movement disorders [1]. Ataxia and parkinsonism would be neurological signs in HD patients, but when expressed among young adults, it would be challenging to diagnose HD [2-3]. Spinocerebellar ataxias are important confounding, because these disorders may affect even children and may be characterized by dementia. This clinical report suggests the relevance of ataxia and parkinsonism in HD diagnostic work-up.

Condition	Chromosomal location	Gene	Average age at onset (years)	Clinical characteristics
HD	4p15	*IT15/huntingtin/HD*	<30	Chorea, personality changes, dementia
HDL1	20p12	*PRNP*	20–40	HD phenocopy, prominent psychiatric features
HDL2	16q24.3	*JPH3*	25–45	HD phenocopy, most frequent in black South Africans
HDL4 (SCA17)	6q27	*TBP*	25–40	Ataxia, HD phenocopy
SCA1	6p23	*ATXN1*	30–40	Ataxia, parkinsonism, dystonia, chorea
SCA2	12q24	*ATXN2*	25–45	Ataxia, parkinsonism, dystonia, chorea, neuropathy, dementia
SCA3	14q32.1	*ATXN3*	20–50	Ataxia, parkinsonism, dystonia, chorea
DRPLA	12p13.31	*Atrophin 1*	<20 >40	Progressive myoclonus epilepsy Ataxia, chorea, dementia
Neuroferritinopathy	19q13	*FTL*	40	Chorea, dystonia, oromandibular involvement, parkinsonism, dysarthria
Benign hereditary chorea	14q13	*TITF-1* (and others)	Childhood	Non-progressive chorea (thyroid and pulmonary abnormalities)

Abbreviations: *ATXN1*, ataxin 1; *ATXN2*, ataxin 2; *ATXN3*, ataxin 3; DRPLA, dentatorubral–pallidoluysian atrophy; *FTL*, ferritin, light polypeptide; HD, Huntington's disease; HDL, Huntington's disease-like; *JPH3*, junctophilin 3; *PRNP*, prion protein; SCA, spinocerebellar ataxia; *TBP*, TATA box-binding protein; *TITF1*, thyroid transcription factor 1.

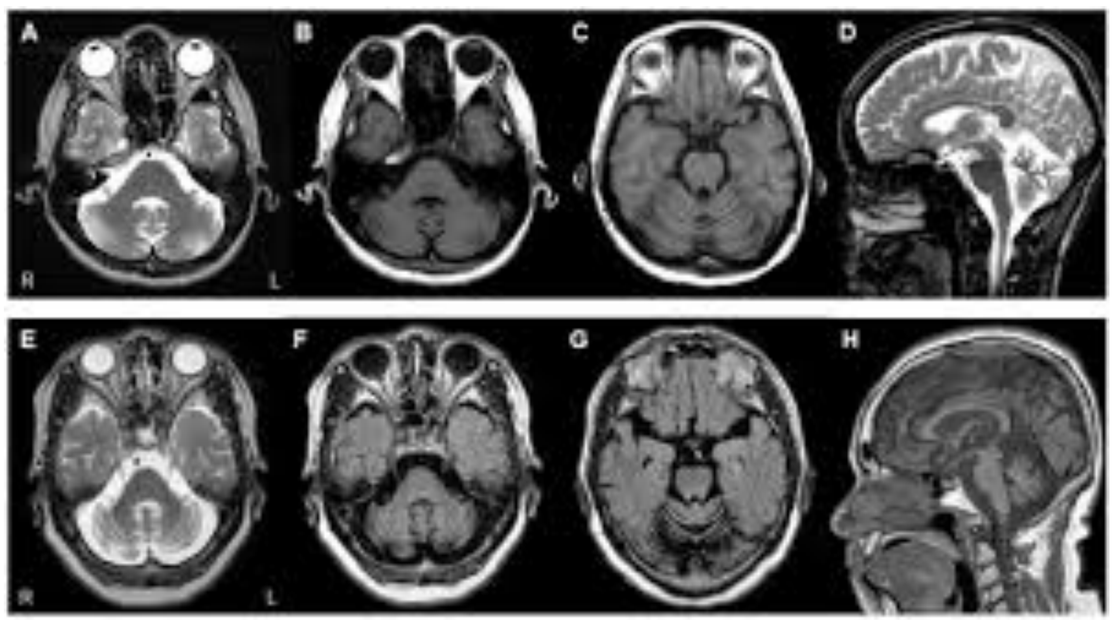
Figue1. Huntington's disease (HD) related genes

Methods

The case report here described refers to two siblings, belonging to a Macedonian family, evaluated for a familial progressive neurological syndrome characterized by ataxic gait, rigidity, bradykinesia, dysarthria, mild facial dyskinesia, and cognitive impairment.

Results

Although the presence of a prominent ataxia syndrome initially suggested dominant spinocerebellar ataxia, a thorough neurological examination which showed parkinsonism and the genetic testing led to a final diagnosis of HD.



Figue2. Brain MRI of patient #1 showing mild cerebellar atrophy

Conclusions

In this case report, it is highlighted how relevant is to consider the possibility of HD in families manifesting prominent dementia, ataxia, parkinsonism, and facial dyskinesia. The extension of CAG repeats may influence the clinical phenotype and should be further investigated. The description of these clinical cases illustrates the broad range of clinical presentations of HD. Indeed, it is stressed the importance of considering HD in the differential diagnosis of patients presenting movement disorders and positive family history for neurological diseases [1].

References

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